

IN THE CLAIMS:

Please amend Claims 1 to 7, 10 to 23 and 25 to 32 as follows:

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1. (Currently Amended) An image pickup apparatus comprising:
a first image pickup portion that receives a first wavelength component of the object light, said first image pickup portion including a plurality of photoelectric conversion portions;
a second image pickup portion that receives a second wavelength component of the object light, different from the first wavelength component, said second image pickup portion including a plurality of photoelectric conversion portions;
a first optical system that guides object light to said first image pickup portion; and
a second optical system that guides object light to said second image pickup portion,
wherein a plurality of image pickup portions for receiving different wavelength components of object light; and
a plurality of optical systems for guiding the object light to said plurality of image pickup portions, respectively, each of said first and second plurality of optical systems performs having a filtering function whose transmission factor becomes smaller as a the distance from an optical axis thereof becomes greater longer.

2. (Currently Amended) An image pickup apparatus according to claim 1, wherein the first and second ~~said different~~ wavelength components of the object light are representative wavelengths of light of different spectral distributions, respectively.

3. (Currently Amended) An image pickup apparatus according to claim 2, wherein one of the said different spectral distributions is a spectral distribution including a peak wavelength of a luminosity factor.

4. (Currently Amended) An image pickup apparatus according to claim 1, wherein one of the first and second ~~said different~~ wavelength components of the object light is included in a spectral distribution including a peak wavelength of a luminosity factor.

5. (Currently Amended) An image pickup apparatus according to claim 1, wherein the first and second ~~said different~~ wavelength components are two different color components among red, green, and blue.

6. (Currently Amended) An image pickup apparatus according to claim 1, wherein said first and second ~~plurality of~~ optical systems comprise a filter for extracting the first and second ~~said different~~ wavelength components, respectively.

7. (Currently Amended) An image pickup apparatus according to claim 1, wherein each of said first and second ~~plurality of~~ optical systems comprises a single lens.

8. (Original) An image pickup apparatus according to claim 7, wherein said single lens is integrally formed of a glass material or a resin material.

9. (Original) An image pickup apparatus according to claim 8, further comprising:

a light shielding layer provided between said integrally formed single lenses.

10. (Currently Amended) An image pickup apparatus according to claim 1, wherein each of said first and second ~~plurality of~~ optical systems comprises a single lens provided with an infrared radiation cutting filter.

11. (Currently Amended) An image pickup apparatus according to claim 1, wherein each of said first and second ~~plurality of~~ optical systems comprises photochromic glass.

12. (Currently Amended) An image pickup apparatus according to claim 1, wherein each of said first and second ~~plurality of~~ optical systems comprises a color purity correction filter.

13. (Currently Amended) An image pickup apparatus according to claim 1, wherein, when a virtual object distance D [m] is defined as a function of an image pickup angle θ [°] of said first and second ~~plurality of~~ optical systems to be $D = 1.4/\tan(\theta/2)$, an interval between the optical axes of said first and second ~~plurality of~~ optical systems is set such that a change in an interval between an object image received by one of said first and second ~~plurality of~~ image pickup portions and an object image received by the other one ~~another~~ of said first and second ~~plurality of~~ image pickup portions between when an object is at the said virtual distance and when the object is at infinity is smaller than a pixel pitch of said image pickup portions multiplied by two.

14. (Currently Amended) An image pickup apparatus according to claim 1, wherein said first and second plurality of image pickup portions are integrally formed.

15. (Currently Amended) An image pickup apparatus according to claim 1, wherein said first and second plurality of image pickup portions are formed in a plane shape.

16. (Currently Amended) An image pickup apparatus according to claim 1, further comprising:

a plurality of openings for taking in external light through said first and second plurality of optical systems.

17. (Currently Amended) An image pickup apparatus comprising:
a first image pickup portion that receives a first wavelength component of object light, said first image pickup portion including a plurality of photoelectric conversion portions;

a second image pickup portion that receives a second wavelength component of the object light, different from the first wavelength component, said second image pickup portion including a plurality of photoelectric conversion portions;

a first optical system that guides object light to said first image pickup portion; and

a second optical system that guides object light to said second image pickup portion,

wherein said first optical system performs a plurality of image pickup portions for receiving different wavelength components of object light, and

24
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~~a plurality of optical systems for guiding the object light to said plurality of image pickup portions, respectively, at least one of said plurality of optical systems having a filtering function whose transmission factor becomes smaller as a the distance from an optical axis thereof becomes greater longer, and said second optical system does not perform at least another of said plurality of optical systems not having a filtering function whose transmission factor becomes smaller as a the distance from an optical axis thereof becomes greater longer.~~

18. (Currently Amended) An image pickup apparatus according to claim 17, wherein the first and second ~~said different~~ wavelength components of the object light are representative wavelengths of light of different spectral distributions, respectively.

19. (Currently Amended) An image pickup apparatus according to claim 18, wherein one of the ~~said~~ different spectral distributions is a spectral distribution including a peak wavelength of a luminosity factor.

20. (Currently Amended) An image pickup apparatus according to claim 17, wherein one of the first and second ~~said different~~ wavelength components of the object light is included in a spectral distribution including a peak wavelength of a luminosity factor.

21. (Currently Amended) An image pickup apparatus according to claim 17, wherein the first and second ~~said different~~ wavelength components are two different color components among red, green, and blue.

22. (Currently Amended) An image pickup apparatus according to claim 17, wherein said first and second ~~plurality of~~ optical systems comprise filters for extracting the first and second ~~said different~~ wavelength components, respectively.

23. (Currently Amended) An image pickup apparatus according to claim 17, wherein each of said first and second ~~plurality of~~ optical systems comprises a single lens.

24. (Original) An image pickup apparatus according to claim 23, wherein said single lenses are integrally formed of a glass material or a resin material.

25. (Currently Amended) An image pickup apparatus according to claim 24, ~~24~~ further comprising:

a light shielding layer provided between said integrally formed single lenses.

26. (Currently Amended) An image pickup apparatus according to claim 17, wherein each of said first and second ~~plurality of~~ optical systems comprises a single lens provided with an infrared radiation cutting filter.

27. (Currently Amended) An image pickup apparatus according to claim 17, wherein each of said first and second ~~plurality of~~ optical systems comprises photochromic glass.

28. (Currently Amended) An image pickup apparatus according to claim 17, wherein each of said first and second ~~plurality of~~ optical systems comprises a color purity correction filter.

29. (Currently Amended) An image pickup apparatus according to claim 17, wherein, when a virtual object distance D [m] is defined as a function of an image pickup angle θ [°] of said ~~plurality of~~ optical systems to be $D = 1.4/\tan(\theta/2)$, an interval between the optical axes of said ~~plurality of~~ optical systems is set such that a change in an interval between an object image received by one of said first and second ~~plurality of~~ image pickup portions and an object image received by the other one ~~another~~ of said first and second ~~plurality of~~ image pickup portions between when an object is at the ~~said~~ virtual distance and when the object is at infinity is smaller than a pixel pitch of said image pickup portions multiplied by two.

30. (Currently Amended) An image pickup apparatus according to claim 17, wherein said first and second ~~plurality of~~ image pickup portions are integrally formed.

31. (Currently Amended) An image pickup apparatus according to claim 17, wherein said first and second ~~plurality of~~ image pickup portions are formed in a plane shape.

32. (Currently Amended) An image pickup apparatus according to claim 17, further comprising:

a plurality of openings for taking in external light through said first and second ~~plurality of~~ optical systems.